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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/530,016

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Mathias Bergman

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BUCHANAN, INGERSOLL & ROONEY PC

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EXAMINER

LUKTON, DAVID

ART UNIT

PAPER NUMBER

1654

MAIL DATE

DELIVERY MODE

06/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/530,016	Applicant(s) BERGMAN ET AL.	
	Examiner David Lukton	Art Unit 1654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 2-5 and 10-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 6-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Applicants' election of Group 1 (claims 1-9, 19) is acknowledged. Also acknowledged is the elected specie, i.e., the following pentapeptide:

cys-leu-arg-ser-cys

Applicants' have traversed by arguing that the peptide sequences encompassed by claim 1 are novel. However, that is not the case.

Claims 10-18 and 20-28 are withdrawn, pursuant to the restriction. Claims 2-5 & 19 are withdrawn from consideration, as they do not encompass the elected species. Claims 1 and 6-9 are examined in this Office action.



Claims 1 and 6-9 are rejected under 35 U.S.C. §112 second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are drawn to a "tumor targeting unit". What does this mean? Is it a compound, a composition, an apparatus, or something else? One option for claim language would be the following:

A compound comprising a tumor targeting unit, wherein said tumor targeting unit comprises the following peptide sequence



The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this action.

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 6, 7 are rejected under 35 U.S.C. §102(b) as being anticipated by Eto (*J Biol Chem* **275**, 27075-83, 2000).

Eto discloses (page 27079) the following peptide:

YQRLMDIKSRLEQEIATYRR

This contains the following pentapeptide subsequence:

K-S-R-L-E

This falls within the scope of instant claim 1 wherein the tripeptide SRL corresponds to variables Dd-Ee-Ff and wherein Cy is Lys and Cyy is Glu (or else Cy is Glu and Cyy is Lys).

Claims 6 and 7 are anticipated for the case of “n” being zero.

Thus, the claims are anticipated.



Claims 1 and 6 are rejected under 35 U.S.C. §102(b) as being anticipated by Ruoslahti (USP 5,622,699).

Ruoslahti discloses SEQ ID NO:3, which is the following:

C-L-S-S-R-L-D-A-C

This falls within the scope of instant claim 1 wherein the variables are as follows:

Dd-Ee-Ff = the tripeptide S-R-L

n = 2

m = 0

Cy is cysteine

Cyy is aspartic acid.

As noted, “Cy” is cysteine, and “Cyy” is aspartic acid (or *vice versa*). What claim 1 recites is that Cy and Cyy are “capable of forming a cyclic structure”.

The first point is that the claim does not require that the side chains of Cy and Cyy be bonded directly to one another; the claim would permit a linking moiety to be present, for example, the following could link together the side chain of cysteine and the side chain of aspartic acid: HS-CH₂-CH₂-CH₂-CH₂-NH₂.

But even if applicants were to amend claim 1 to mandate that it would be chemically possible to directly bond the side chains of Cy and Cyy to one another, the disclosed peptide would still fall within the scope of claim 1. As it happens, it would be a relatively straightforward matter to form a thioester bond between the sulfhydryl group of the cysteine, and the carboxyl group of the aspartic acid. The claims are anticipated on this basis.

Separately from the foregoing, the reference discloses SEQ ID NO: 19, which is the following: LSSRLDA

Here, one could form a bond between (a) the *alpha*-amino group of leucine and the carboxyl group of aspartic acid, or (b) between the hydroxyl group of serine and the carboxyl group of aspartic acid.

Thus, the claims are anticipated.



Claims 1 and 6 are rejected under 35 U.S.C. §102(e) as being anticipated by Roberts (US 2003/0148368).

Roberts discloses various sequences that fall within the scope of instant claim 1. Among them are the following: SEQ ID NOS: 8, 770, 1065, 1091, 1092, 1143 and 1144. For example, SEQ ID NO: 1144 is the following:

Glu-Ser-Arg-Leu-Lys-Leu-Glu-Ala-Arg-Leu

This contains the requisite "SRL" tripeptide; the side chains of Glu and Lys are capable of forming a cyclic peptide.

Thus, the claims are anticipated.

✦

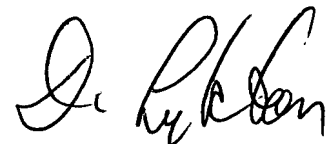
WO 02/044215 was stricken from the IDS because it was not received.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lukton whose telephone number is 571-272-0952. The examiner can normally be reached Monday-Friday from 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang, can be reached at (571)272-0562. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600.



DAVID LUKTON, PH.D.
PRIMARY EXAMINER